

REMARKS

This application has been carefully reviewed in light of the Office Action dated April 19, 2004 (Paper No. 28). Claims 16 to 24, 37 to 40, 42, 44 to 47, 49, 79 and 80 are pending in the Office Action, of which Claims 16, 20, 24, 79 and 80 are independent. Reconsideration and further examination are respectfully requested.

Claims 16 to 24, 79 and 80 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,982,928 (Shimada) in view of U.S. Patent No. 5,235,654 (Anderson), and Claims 37 to 40, 44 to 47 and 49 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimada in view of Anderson, and in further view of JP 58-182956 (Sakai) and U.S. Patent No. 5,848,187 (Bricklin). Reconsideration and withdrawal of these rejections are respectfully requested.

The present invention concerns document processing using character recognition of a manuscript image. According to one aspect of the invention, a manuscript image is obtained by scanning a manuscript. The manuscript image includes an image of a manuscript ID indicating identification information of the scanned manuscript. The manuscript ID image is transmitted from a terminal to a central without the manuscript image. The central control unit obtains information of character recognizing condition based on the received manuscript ID and transmits the obtained information of character recognizing condition back to the terminal. The character recognizing condition information includes positional information recognition areas of the manuscript image. The terminal then performs character recognition of the manuscript image in accordance with the information of character recognizing condition.

In this manner, the terminal performs character recognition in an optimal manner using the information of character recognizing condition obtained by the central control unit. In addition, by not including the manuscript image with the manuscript ID sent to the central control unit, the communication load between the terminal and central control unit is reduced thereby allowing total throughput of the system to be increased.

With reference to particular claim language, independent Claims 16, 20 and 24 concern a communication system that includes a terminal and a central control unit. A manuscript image is obtained by scanning the manuscript, where the manuscript image includes a manuscript ID image. The manuscript ID image included in the image data is recognized and a manuscript ID is obtained as the recognition result of the manuscript ID image. The manuscript ID indicates information for an identification of the manuscript. The obtained manuscript ID is transmitted without the image of the manuscript from the terminal to the central control unit. The central control unit obtains an information of character recognizing condition based on the manuscript ID, where the information of character recognizing condition includes positional information of recognition areas of the manuscript image. A control signal including the information of character recognizing condition is transmitted from the central control unit to the terminal. Character images included in the manuscript image are recognized in accordance with the information of character recognizing condition included with the control signal.

Independent Claim 79 concerns a terminal that performs communication with a central control apparatus. The terminal obtains an image of a manuscript by scanning the manuscript, where the manuscript image includes a manuscript ID image. The manuscript ID image included in the manuscript image is recognized and a manuscript ID is obtained as the recognition result of the manuscript ID image, where the manuscript ID indicates information

for an identification of the manuscript. The obtained manuscript ID is transmitted without the manuscript image of the manuscript to the central control apparatus. A control signal is received from the central control apparatus, the control signal including an information of character recognizing condition of the manuscript determined by the central control apparatus based on the manuscript ID. The information of character recognizing condition includes positional information of recognition areas of the manuscript image. Character recognition of character images included in the manuscript image is performed in accordance with the information of character recognizing condition included with the control signal.

Independent Claim 80 concerns a central control apparatus that performs communication with a terminal. A manuscript ID is transmitted from the terminal to the central control apparatus, where the manuscript ID is obtained by the terminal by recognizing a manuscript ID image included in an image obtained by scanning a manuscript. The manuscript ID is transmitted from the terminal without the manuscript image. An information of character recognizing condition is obtained based on the received manuscript ID, the information of character recognizing condition including positional information of recognition areas of the manuscript image. A control signal including the obtained information of character recognizing condition is transmitted to the terminal. The terminal performs character recognition of character images included in the manuscript image in accordance with the information of character recognizing condition included in the transmitted control signal.

The applied references are not seen to disclose or suggest the foregoing features of the present invention. In particular, the applied references are not seen to disclose or suggest at least the features of recognizing a manuscript ID from a manuscript image by a terminal and then transmitting the manuscript ID without the manuscript image to a central control unit; receiving

at the terminal recognition area information of a character recognizing condition obtained by the central control unit using the manuscript ID; and performing, at the terminal, a character recognition of character images included in the manuscript image in accordance with the information of character recognizing condition included in the transmitted control signal.

Rather, Shimada concerns a character recognition system in which handwritten character data received by a host terminal are recognized using a dictionary corresponding to the sources of the data. For example, as described in column 5, lines 50 to 60, of Shimada, character data received from terminals connected to the host terminal are returned to their respective terminals for character recognition using a registered dictionary and recognition engine at the respective terminal. Character data received at the host terminal includes attribute data such as name of describer or terminal ID, which is used to identify the source of the data. The Office Action contended that this attribute data corresponds with the manuscript ID of the present invention. Even if this interpretation of Shimada were correct, which Applicant does not concede, the process described in Shimada differs from that of the present invention.

In Shimada, terminals 5 and 7 send handwritten data input by a user of the terminal to host terminal 10000. The Office Action contended that terminals 5 and 7 correspond with the terminal of the present invention, and that host terminal 1000 corresponded with the central control unit of the present invention. However, the handwritten data transmitted between the terminals and the host terminal in Shimada is seen to differ from that transmitted in the present invention. Specifically, the handwritten data transmitted between the terminals and the host terminal in Shimada is seen to include both character data and attribute data. In contrast, the present invention transmits a manuscript ID without an image of the scanned manuscript.

Therefore, Shimada is not seen to reduce the communication load between the terminals and the host terminal by sending the attribute data without the character data.

Page 2 of the Office Action took a contrary position and stated that Shimada, at Column 8, lines 39 to 55, describes a transmission of a manuscript ID that is separate from a transmission of image data of the manuscript. Applicant respectfully submits that this is an incorrect interpretation of the disclosures of Shimada. Shimada discloses that “operators of terminals describe their ideas in windows corresponding to cards.” (See Shimada FIG. 3A and Column 6, lines 62 to 66.) Thus the identification number or “card number” of Shimada is actually an address of a data entry terminal that may be used for handwritten entries. Therefore, the identification numbers of Shimada correspond to terminals used during a conference and do not correspond with the manuscript IDs used within the present invention. In the case of Shimada, the identification numbers are known *a priori* as there is a one-to-one correspondence between the terminals and the participants in a conference, with the identification numbers corresponding to the terminals used by the participants. (See Shimada FIG. 1 and Column 5, lines 4 to 9.) Therefore, Shimada does not disclose that a manuscript ID is obtained from the manuscript itself as an identifier of the manuscript because Shimada’s identification number is obtained from the terminal used by a participant and not from the manuscript.

Anderson is not understood to disclose or suggest anything to remedy the foregoing deficiencies of Shimada. Anderson concerns a system for processing scanned images of document forms. Anderson was cited in the Office Action for its disclosure of scanning documents and for using positional information within the scanned documents. However, Anderson is not understood to disclose or suggest transmitting from a terminal to a central control unit a manuscript ID obtained from a manuscript image.

Therefore, neither Shimada nor Anderson, either alone or in combination, are seen to disclose or suggest at least the feature of a terminal recognizing a manuscript ID from a manuscript image and transmitting the manuscript ID to a central control unit, without also transmitting the manuscript image. Furthermore, neither Shimada nor Anderson, either alone or in combination, are seen to disclose or suggest a character recognizing condition having positional information of recognition areas obtained by the central control unit based on the manuscript ID, where the terminal performs character recognition of character images included in the manuscript image in accordance with the information of character recognizing condition.

Sakai and Bricklin, which were applied in the rejection of certain dependent claims, are not understood to disclose or suggest anything to remedy the foregoing deficiencies of Shimada and Anderson. Specifically, neither Sakai nor Bricklin are understood to disclose or suggest at least the feature of a terminal recognizing a manuscript ID from a manuscript image and transmitting the manuscript ID without the manuscript image to a central control unit to receive information of character recognizing condition having positional information of recognition areas obtained by the central control unit based on the manuscript ID, where the terminal performs character recognition of character images included in image data of the scanned manuscript in accordance with the obtained information of character recognizing condition.

Accordingly, independent Claims 16, 20, 24, 79 and 80 are believed to be allowable over the applied references.

The other claims in the application are dependent from the independent claims discussed above and therefore are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the

invention, however, the individual consideration of each on its own merit is respectfully requested.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Frank L. Cire', is written over a horizontal line.

Attorney for Applicant
Frank L. Cire
Registration No. 42,419

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-2200
Facsimile: (212) 218-2200

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